Matches	1551; Conservative 0; Mismatches 0; Indels 0; Gap.
	ATGGATGCTGACGAGGGTCAAGACATGTCTTTCTCATCAGGGAAGGAA
61	AGCGATACTCCAGATGAGGGGATGAGCCCATGCCGATCCCCGAGGACCTCTCCACCC 120
121	TCGGGAGGACAGCAAAGCTCCAAGAGTGACAGAGTCGTGGCCAGTAATGTTAAAGTAGAG 18
181	GAATGGGGAAGAATGTGCGGAG 24
241	CAAGGC 30
301	GACTICCTAACGGAAACTAAAGIGIGAT 36
361 361	ATCTGTGGGATCATTTGCATCGGCCCAATGTGCTCATGGTTCACAAAAGAAGCCACACT 420
421	CACCCAGAAGGCAACCTG 48
481	AATGCCACCTCTGCAACTAC 54
541	GCCTGCCGCCGGAGGGACGCCCTCACTGGCCACCTGAGGACGCACTCCGTTGGTAAACCT 600
601	CACAAATGTGGATATTGTGGCCGAAGCTATAAACAGCGAACGTCTTTAGAGGAACATAAA 660
661	GAGCGCTGCCACAACTACGTGGAAAGCATGGGCCTTCCGGGCACACTGTACCCAGTCATT 720
721	GATAGGATCAGAGAGA 78
781	TCTCTCGTGCTGGACAGAACTAAGCGCAACGTAAGGTAAGAGCTCTATGCCTCAG 840
841	NCAGTGCCACGTACGAGAAG 90
901	GAGAACGAAATGATGAAGTCCCACGTGATGGACCAAGCCATCAACAACGCCATCAACTAC 960
961	CTGGGGGCCGAGTCCCTGCGCCCGCTGGTGCAGACGCCCCGGGGGGTTCCGAGGTGGTC 1020
1021 1021	GGAGGCACCCGCGCTCCAAC 108

```
PRI 27-MAR-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /protein_id="AAB50683.1"
/db_xref="GI:1911483"
/translation="MDADEGQDMSFSSGKESPPVSDTPDEGDEPMPIPEDLSTTSGGQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 1788)
Molnar, A., Wu, P., Largespada, D.A., Vortkamp, A., Scherer, S., Copeland, N.G., Jenkins, N.A., Bruns, G. and Georgopoulos, K. The Ikaros gene encodes a family of lymphocyte-restricted zinc finger DNA binding proteins, highly conserved in human and mouse
                  1081 CACTCGGCCCAGGACAGCGCGTGGAGTACCTGCTGCTGCTCTCCAAGGCCCAAGTTGGTG 1140
                                                                                             1141 CCCTCGGAGGCGGGGGGCGTCCCGAGCAACAGCTGCCAAGACTCCACGGACACCGAGAGC 1200
                                                                                                                                              1201 AACAACGAGGAGCAGCGGTCTTATCTACCTGACCACACCACATCGCCCGACGCGCG 1260
                                                                                                                                                                                                                         1261 CAACGCGTGTCGCTCAAGGAGGAGCACCGCGCTTACGACCTGCTGCGCGCCGCCTCCGAG 1320
                                                                                                                                                                                                                                                                                                                                                                           1081 CACTCGGCCCAGGACAGCGCCGTGGAGTACCTGCTGCTGCTCCAAGGCCAAGTTGGTG 1140
                                                                                                                                                                                                                                             1441 CACGGCTTCCGTGATCCTTTTGAGTGCAACATGTGCGGCTACCACAGCCAGGACCGGTAC 1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S80876
IKAROS-hIK1 {alternatively spliced} [human, Jurkat T cell line,
mRNA Partial, 1788 nt].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GenBank staff at the National Library of Medicine created this entry [NCBH glubbsq 175401] from the original journal article. This sequence comes from Fig. 1B and C. Map location: 7p13-p11.1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="lymphocyte-restricted zinc finger DNA binding protein; This sequence comes from Fig. 1C"
                                                                         1141 CCTTCGGAGCGCGAGCGTCCCCGAGCAACAGTGCCAAGACTCCACGGACACCGAGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1501 GAGTICICGICGCACAIAACGCGAGGGGAGCACCGCITCCACAIGAGCIAA 1551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
/db_xref="taxon:9606"
1..1788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human Jurkat T cell line.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /gene="IKAROS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /gene="IKAROS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /codon_start=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="hik1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S80876.1 GI:1911482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   I. .1788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96132984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
S80876
                                  a
                                                                         ö
                                                                                                           d
                                                                                                                                                å
                                                                                                                                                                                  ద
                                                                                                                                                                                                                           òχ
                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
```

GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

OM nucleic - nucleic search, using sw model

August 28, 2002, 07:06:00 ; Search time 2044.51 Seconds (Without alignments) 15875.226 Million cell updates/sec Run on:

US-08-711-417C-165 1551 Title: Perfect score:

1 ATGGATGCTGACGAGGGTCA......ACCGCTTCCACATGAGCTAA 1551 Sequence:

IDENTITY_NUC Gapop 10.0 , Gapext 1.0 Scoring table:

1797656 seqs, 10463268293 residues Searched: 3595312 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

GenEmbl:*

9b_pat: 9b_ph:* 9b_p:* 9b_ro:* 9b_ro:* 9b_ro:* 9b_vi:* 9b_v gb_ba:*
gb_htg:*
gb_in:*
gb_om:*

em_pat:* em_ph:* em_ov:* em_pl:* em_or:*

em_ro:* em_sts:*

em_un:*
em_vi:*
em_ty_bum:*
em_htg_inv:*
em_htg_other:*
em_htg_other:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

G Query Score Match Length DB

Result

Description

755 6 155 7700 7700 7700 7700 7700 7700 7700 7	
AR1497 AR10404 AR10404 AR10405 AR1260 AR1495	UWUWWV40V4NWOWWWHNU46UV
1551 17881 1386 1386 1386 1386 1386 1004 1004 1004 1004 1788 1788 1788 1788 1788	2496 684 1170 1170 1170 1170 1170 2303 2303 2303 2301 1128 1128 1128 1128 1128 1128 1128 11
	4 & w w w w w w w w w w w w w w w w w w
1551 168.8 1386 1386 1386 1174.8 174.8 174.	982. 997. 1111. 112. 99. 99. 99. 99. 99.
222211111111 2222111111111111111111111	00000000000000000000000000000000000000

ALIGNMENTS

```
PAT 08-AUG-2001
                                                                                                                                                                                                                                                         100.0%; Score 1551; DB 6; Length 1551; 100.0%; Pred. No. 2.5e-250;
                    linear
                                                                                   Unknown.

Muchassified.

JE 1 (bases 1 to 1551)

RS Georgopoulos,K.

J Ikaros: A T cell pathway regulatory gene
NAL Patent: US 6228611-A 165 08-MAY-2001;
Location/Qualifiers

1.1551

1.1551

1.1551
                      DNA
              Sequence 165 from patent US 6228611.
ARR49755
AR149755.1 GI:15114346
                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                 DEFINITION
ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                      source
RESULT 1
AR149755
                                                                                              ORGANISM
                                                                                                                                                                                                             BASE COUNT
ORIGIN
                                                                                                                                                 TITLE
JOURNAL
FEATURES
                                                                                                                         REFERENCE
                                                                                                                                     AUTHORS
                                                                                    SOURCE
```

```
ALSGVGGTRLPWGKLKCDICGIICIGPNVLWYHRRSHTGERPFQCNQCGASFTQKGNL
LRHTKLHSGERPFKCHLCNYACRRRDALTGHLRTHSVGKPHKCGYCGRSYKORTSLEE
HKBRCHWYLESMGLPGTLIPYTKEEFRHSBARBDLCKIGSERSLVLDRLASNVAKRKS
SMPQKFLGJKGLSDTTPYDSATYEKENEMMKSHVMDQAINNAINYLGARSLRPPYOTPP
GGSEVVPVISPMYQLHRRSEGTPRSHHSGADSAVEYLLLLSKAKLVPSEREASPSNG
ODSTOTESNNERQRSGLIYLTNHIARRAQRVSLKEEHRAYDLLRAASENSQOALRRVS
TSGEQMKVYKCEHCRVLELDHWYTIHMGCHGFRDPFECNMCGYHSQDRYEFSSHITR
QSSKSDRVVASNVKVETQSDEENGRACEMNGEECAEDLRMLDASGEKMNGSHRDQGSS
                                                                                                                                                                                                                                                                                                                                                                              GEHRFHMS"
```

ö 61 AGCGATACTCCAGATGAGGGCGATGAGCCCATGCCGATCCCCGAGGACCTCTCCACCACC 120 121 TCGGGAGGACAGCAAAGCTCCAAGAGTGACAGAGTCGTGGCCAGTAATGTTAAAGTAGAG 180 300 537 Gaps 361 ATCTGTGGGATCATTGCATCGGGCCCAATGTGCTCATGGTTCACAAAAAAAGAGCCACACT 420 657 421 GGAGAACGGCCCTTCCAGTGCAATCAGTGCGGGGCCTCATTCACCCCAGAAGGGCAACCTG 480 718 CTCCGGCACATCAAGCTGCATTCCGGGGAAGCCCTTCAAATGCCACCTCTGCAACTAC 777 601 CACAAATGTGGATATTGTGGGCCGAAGCTATAAACAGGGAACGTCTTTAGAGGAACATAAA 660 661 GAGCGCTGCCACACTACTTGGAAAGCATGGGCCTTCCGGGCACACTGTACCCAGTCATT 720 840 AAAGAAGAAACTAAGCACAGTGAAATGGCAGAAGACCTGTGCAAGATAGGATCAGAGAGA 780 838 CACAAATGTGGATATTGTGGCCGAAGCTATAAACAGCGAACGTCTTTAGAGGAACATAAA 897 241 GATTTACGAATGCTTGATGCCTCGGGAGAAAATGAATGGCTCCCACAGGGACCAAGGC 541 GCCTGCCGCAGGAGGACGCCCTCACTGGCCACCTGAGGACGCACTCCGTTGGTAAACCT 481 CTCCGGCACATCAAGCTGCATTCCGGGGAGAAGCCCTTCAAATGCCACCTCTGCAACTAC 781 TCTCTCGTGCTGGACAGACTAGCAAGTAATGTCGCCAAACGTAAGAGCTCTATGCCTCAG ö Length 1788; Indels 100.0%; Score 1551; DB 9; 100.0%; Pred. No. 2.4e-250; tive 0; Mismatches 0; 330 t 497 g 511 cBest Local Similarity 100.(Matches 1551; Conservative 450 Query Match BASE COUNT ORIGIN 298 721 à g g ö ö g ò a

ŏ g ð g ò g

qq δ

à g

g ŏ

ò qq

q à

à 셤

```
961 CTGGGGGCCGAGTCCCTGCGCCCGCTGGTGCAGACGCCCCGGGCGGTTCCGAGGTGGTC 1020
           1021 CCGGTCATCAGCCCGGTGTACCAGCTGCACGCGCTCGGAGGGCACCCCGCGCTCCAAC 1080
                                                                                                                                   1140
                                                                                                                                                                                                                                                 1141 CCCTCGGAGCGCGAGGCGTCCCCGAGCAACAGCTGCCAAGACTCCACGGACACCGAGAGC 1200
                                                                                                                                                                                                                                                                                        1261 CAACGCGTGTCGCTCAAGGAGGAGCACCGCGCCTACGACCTGCTGCGCGCCCCCCTCCGAG 1320
                                                                                                                                                                                                                    1321 AACTCGCAGGACGCGCTCCGCGTGGTCAGCACCAGGGGGAGCAGATGAAGGTGTACAAG 1380
                                                                                                                                                                                                                                                                                                                                                                          1381 IGCGAACACTGCCGGGTGCTCTTCCTGGATCACGTCATGTACACCATCCACATGGGCTGC 1440
                                                                                                                                                                                                                                                                                                                                            841 AAATTTCTTGGGGACAAGGGCCTGTCCGACGCCCTACGACAGTGCCACGTACGAGAAG 900
                                                                                                                                                                                                                                                                                                                                                                                    901 GAGAACGAAATGATGAAGTCCCACGTGATGGACCAAGCCATCAACAACGCCATCAACTAC
                                                                                                                                                                1081 CACTCGGCCCAGGACAGCGCCGTGGAGTACCTGCTGCTGCTCTCCAAGGCCAAGTTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                          1501 GAGTICTCGTCGCACATAACGCGAGGGGAGCACCGCTTCCACATGAGCTAA 1551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1738 GAGTTCTCGTCGCACATAACGCGAGGGGAGCACCGCTTCCACATGAGCTAA 1788
                   q
                                        δ
                                                           g
                                                                                ò
                                                                                                  g
                                                                                                                        οχ
                                                                                                                                           g
                                                                                                                                                                ð
                                                                                                                                                                                    g
                                                                                                                                                                                                                            g
                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
```

```
PRI 27-APR-1996
                                                                                                                                                                                                              1 (bases 1 to 3629)
Nietfeld, W. and Meyerhans, A.
Cloning and sequencing of hIK-1, a cDNA encoding a human homologue
                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
Submitted (10-NOV-1995) Wilfried Nietfeld, Department of Virology,
University of Freiburg, Institute for Medical Microbiology and
Hygiene, Hermann-Herder-Strasse 11, Freiburg 79104, Germany
Location/Qualifiers
                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                    HSU40462 3629 bp mRNA linear PR. Human Ikaros/LyF-1 homolog (hIK-1) mRNA, complete cds. U40462
                                                                                                                                                                                                                                                                                                        Immunol. Lett. 49-(1-2), 139-141 (1996) 96252222
                                                                                       U40462.1 GI:1289370
                                                                                                                                                                                                                                                                                                                                                        (bases 1 to 3629)
                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                          Nietfeld, W.
                                                                                                                                     numan.
                                         DEFINITION
                                                                                                                                                     ORGANISM
                                                                ACCESSION
                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
HSU40462
                                                                                                         KEYWORDS
                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                               MEDLINE
                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                    VERSION
                                                                                                                                                                                                                                                              TITLE
                                                                                                                           SOURCE
```

RESULT

FEATURES

1068

957

```
PAT 29-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1609 AIGGGCIGCCACGGCTICCGIGAICCTITITAGGIGCAACAIGIGGGCIACCACACACAG 1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1669 GACCGGTACGAGTTCTCGTCGCACATAACGCGAGGGGAGCACCGCTTCCACATGAGCTAA 1728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1489 eccrecadaaacrecacagaacececrececarecrecaceaceageageageaargaag 1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1372 GIGTACAAGTGCGAACACTGCCGGGTGCTCTTCCTGGATCACGTCATGTACACCATCCAC 1431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1432 AIGGGCIGCCACGGCTICCGIGAICCTITIGAGIGCAACAIGIGCGGCIACCACAGCCAG 1491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1492 GACCGGTACGAGTTCTCGTCGCACATAACGCGAGGGGGGGCACCGCTTCCACATGAGCTAA 1551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1312 GCCTCCGAGAACTCGCAGGAGGGGCTCCGCGTGGTCAGCACCAGCGGGGAGCAGATGAAG 1371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCCAACCACTCGGCCCAGGACAGGCGCGGTGGAGTACCTGCTGCTGCTCTCCAAGGCCAAG 1134
                                                                                                                                                                                                                                                                                                                                                                                                  TTGGTGCCCTCGGAGCGGAGCGTCCCCGAGCAACAGCTGCCAAGACTCCACGGACACC 1194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TACCTGGGGGCCGAGTCCCTGCGCCGGTGGAGACGCCCCGGGGGGGTTCCGAGGTG 1017
                                                                                                                                                                                                                                                                                                                                       1018 GTCCCGGTCATCAGCCCGATGTACCAGCTGCACA---GGCGCTCGGAGGGCACCCCGCGC 1074
                                                                                                                                                         781 TCTCTCGTGCTGGACAGACTAGCAAGTAATGTCGCCAAACGTAAGAGCTCTATGCCTCAG 840
                                                                                              721 AAAGAAGAAACTAAGCACAGTGAAATGGCAGAAGACCTGTGCAAGATAGGATCAGAGAGA 780
                                                            601 CACAAATGTGGATATTGTGGCCGAAGCTATAAACAGCGAACGTCTTTAGAGGAACATAAA 660
              1255 CGCGCGC---AACGCGTGTCGCTCAAGGAGGAGCACCGCGCCTACGACCTGCTGCGCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              898 AAGGAGAACGAAATGATGAAGTCCCACGTGATGGACCAAGCCATCAACAACGCCATCAAC
                                                                                                                                                                                                                                                                                                    841 AAAITICITGGGGACAAGGGCCIGICCGACACGCCCTACGA---CAGIGCCACGTACGAG
                                               GAGCGCTGCCACAACTACTTGGAAAGCATGGGCCTTCCGGGGCACACTGTACCCAGTCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1386 bp
Sequence 3 from patent US 5824770.
AR049700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AR049700.1 GI:5971692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                               1075
                                                                                                                                                                                                                                                                                                  928
                                                                                                                                                                                                                                                                                                                                                                                                                                             1135
                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AR049700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                  ŏλ
                                                                                                                                                                                                                                                                                                                         원
                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                   δ
                                                                                                                                                                                                                            g
                                                                                                                             g
                                                                                                                                                      ŏ
                                                                                                                                                                            d
                                                                                                                                                                                                                                                    ŏ
                               g
                                                         ŏ
                                                                                                                                                                                         /translation="MDADEGDMSOVSGKESPPVSDTPDEGDEPMPIPEDLSTTSGGQ
QSSKSDRVVASNVKVETQSDEENGRACEMNGEECAEDLRMLDASGEKMNGSHRDQGSS
ALSGVGGIRLPNGKLKCDICGIICIGPNVLMVHKRSHTGERPFQCNQCGASFTQKGNL
LRHIKLHSGEKPFKCHLCNYACRRRDALTGHLRTHSVGKPHKCGYCGRSYKQRSLEE
                                                                                                                                                                                                                                                   SMPQKFLGDKGLSDTPYDSSASYEKENEMMKSHVMDOAINNAINYLGAESLRPLVQTP
PGGSEVVPVISPMYQLHKPLAEGTPRSNHSAQDSAVENLLLLSKAKLVPSEREASPSN
SCQDSTDTESNNEEQRSGLIYLINHIAPHARNGLSLKEEHRAYDLLRAASENSQDALR
                                                                                                                                                                                                                                                                                      VVSTSGEQMKVYKCEHCRVLFLDHVMYTIHMGCHGFRDPFECNMCGYHSQDRYEFSSH
                                                                                                                                                                                                                                                                                                                                                                                        ä
                                                                                                                                                                                                                                       HKERCHNYLESMGLPGTLYPVIKEETNHSEMAEDLCKIGSERSLVLDRLASNVAKRKS
                                                                                                        /note="similar to mouse LyF-1, encoded by GenBank
Accession Number S74708; similar to mouse Ikaros
DNA-binding protein, Swiss-Prot Accession Number Q03267"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 AGCGATACTCCAGATGAGGGGGATGAGCCCATGCCGATCCCCGAGGACCTCTCCACCACC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGAGAACGGCCCTTCCAGTGCAATCAGTGCGGGGCCTCATTCACCCAGAAGGGCAACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTCCGGCACATCAAGCTGCATTCCGGGGAGAAGCCCTTCAAATGCCACCTCTGCAACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GATTTACGAATGCTTGATGCCTCGGGAGAAAATGAATGGCTCCCACAGGGACCAAGGC
                                                                                                                                                                                                                                                                                                                                                                                        6
                                                                                                                                                                                                                                                                                                                                                               DB 9; Length 3629;
                                                                                                                                                                                                                                                                                                                    1 others
                                                                                                                                                                                                                                                                                                                                                                                        27; Indels
                                                                                                                                                                                                                                                                                                                                                               Score 1468.8; DB 9;
Pred. No. 1.3e-236;
0; Mismatches 27;
                                                                                                                                                        /produ_t="Ikaros/LyF-1 homolog"
/protein_id="AAC50459.1"
/db_xref="G1:1289371"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         773 t
                                                   /tissue_type="bone marrow"
                            /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                    936 g
                                                                                               /gene="hIk-1"
                                                                          /gene="hik-1"
                                                                                                                                                                                                                                                                                                                                                                 Query Match 94.7%;
Best Local Similarity 97.7%;
Matches 1524; Conservative
                                                                                                                                                                                                                                                                                                       ITRGEHRFHMS"
                                                                                        169. .1728
                                                                                                                                                                                                                                                                                                                      1002 c
                                                                                                                                                                                                                                                                                                                        ದ
                                                                                                                                                                                                                                                                                                                      917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          229
                                                                  gene
                                                                                        CDS
                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

δ g ò 1311

1368

```
286 CACAGGGACCAAGGCAGCTCGGCTTTGTCGGGAGTTGGAGGCATTCGACTTCCTAACGGA 345
                                                                                                                                                                                                                                      346 AAACTAAAGTGTGATATCTGTGGGGATCATTTGCATCGGGCCCAATGTGCTCATGGTTCAC 405
                                                                                                                                                                                                                                                                            406 AAAAGAAGCCACACTGGAGAACGGCCCTTCCAGTGCAATCAGTGCGGGGCCTCATTCACC 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       946 AACGCCATCAACTACCTGGGGGCCGAGTCCCTGCGCCCGCTGGTGCAGACGCCCCCGGGC 1005
                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                               CAGAAGGGCAACCTGCTCCGGCACATCAAGCTGCATTCCGGGGAGAAGCCCTTCAAATGC 525
                                                                                                                                                                                                                                                                                                                                                   526 CACCICTGCAACTACGCCTGCCGCGGAGGGACGCCCTCACTGGCCACCTGAGGACGCAC 585
                                                                                                                                                                                                                                                                                                                                                                                       646 TTAGAGGAACATAAAGAGGGCTGCCACAACTACTTGGAAAGCATGGGCCTTCCGGGCACA 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                              765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         826 AGCTCTATGCCTCAGAAATTTCTTGGGGACAAGGGCCTGTCCGACACGCCCTACGACAGT 885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        886 GCCACGTACGAGAAGGAAAGGAAATGATGAGTCCCCACGTGATGGACCAAGCCATCAAC 945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       706 CTGTACCCAGTCATTAAAGAAGAAGTAAGCACAGTGAAATGGCAGAAGACCTGTGCAAG
                                                                                                                                          ;
0
                                                                                                                        Length 1386;
                                                                                                                                         Indels
                                                                                                                    89.4%; Score 1386; DB 6; L
100.0%; Pred. No. 1.1e-222;
tive 0; Mismatches 0;
                 1 (bases 1 to 1386)
Georgopoulos, K.
Ikaros polypeptides
Patent: US 5824770-A 3 20-OCT-1998;
Location/Qualifiers
                                                                                   238
                                                                         /organism="unknown"
                                                                                 403 c
                                                                                                                           Best Local Similarity 100.0
Matches 1386; Conservative
                                                                 .1386
        Unclassified.
                                                                                 350 a
Unknown.
                                                                                                                    Query Match
                                          JOURNAL
FEATURES
                                                               source
ORGANISM
                                                                             BASE COUNT
                 REFERENCE
                           AUTHORS
                                                                                                                                                                                                                                                                                                                                          466
                                    TITLE
                                                                                        ORIGIN
                                                                                                                                                                      g
                                                                                                                                                                                          õ
                                                                                                                                                                                                         a
                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                              ρp
                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                               οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
```

```
PAT 16-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
1066 ACCCGGCGCTCCAACCACTCGGCCCAGGACAGCGCCGTGGAGTACCTGCTGCTGCTCTCC 1125
                                                                                                    1126 AAGGCCAAGTTGGTGCCCTCGGAGCGCGTCCCCGAGCAACAGCTGCCAAGACTCC 1185
                                                                                                                  1021 ACGGACACGAGAGCAACGAGGAGCAGCGCAGCGGTCTTATCTACCTGACCAACAC, 1080
                                                                                                                                                                                                                       1246 ATCGCCCGACGCGCAACGCGTGTCGCTCAAGGAGGAGCACCGCGCCCTACGACCTGCTG 1305
                                                                                                                                                                                                                                                          1306 CGCCCCCCCCCCGAGAACTCGCAGGACGCGCTCCGCGTGGTCAGCACCAGCGGGGAGCAG 1365
                                                                                                                                                                                                                                                                         1141 CGCGCGCCTCCGAGAACTCGCAGGACGCGCTCGCGTGAGCACCAGCGGGGAGCAG 1200
                                                                                                                                                                                                                                                                                                              1366 ATGAAGGTGTACAAGTGCGAACACTGCCGGGTGCTCTTCCTGGATCACGTCATGTACACC 1425
                                                                                                                                                                                                                                                                                                                                       1201 ATGAAGGTGTACAAGTGCGGAACACTGCCGGGTGCTCTTCCTGGATCACGTCATGTACACC 1260
                                                                                                                                                                                                                                                                                                                                                                1426 ATCCACATGGGCTGCCACGGCTTCCGTGATCCTTTTGAGTGCAACATGTGCGGCTACCAC 1485
                                                                                                                                                                                                                                                                                                                                                                                                                   1486 AGCCAGGACCGGTACGAGTTCTCGTCGCACATAACGCGAGGGGAGCACCGCTTCCACATG 1545
                                                                                  960
                                                                                                                                                                                                                                                                                                                                                                               1321 AGCCAGGACCGGTACGAGTTCTCGTCGCACATAACGCGAGGGAGCACCGCTTCCACATG 1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 1386;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 / Match 89.4%; Score 1386; DB 6; Length 1. Local Similarity 100.0%; Pred. No. 1.1e-222; nes 1386; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ų
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tkaros transgenic cells and mice
Patent: US 6172278-A 2 09-JAN-2001;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AR125028
Sequence 2 from patent US 6172278.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="unknown"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   395 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AR125028
AR125028.1 GI:14110412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 (bases 1 to 1386)
Georgopoulos, K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               403 C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 1386; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .1386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1381 AGCTAA 1386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1546 AGCTAA 1551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                350 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AR125028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 5
AR125028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
                                                   οy
                                                                          g
                                                                                                      ŏ
                                                                                                                             q
                                                                                                                                                        ŏ
                                                                                                                                                                               ద
                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Dp
```

õ g ò g à g à

ŏ g ŏ

```
1246 ATCGCCCGACGCGCCAACGCGTGTCGCTCAAGGAGGAGCACCGCGCCTACGACCTGCTG 1305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAGGCCAAGTTGGTGCCCTCGGAGCGCGAGGCTCCCCGAGCACACAGCTGCCAAGACTCC 1185
                                                                                                                                                                                                                                                                                                                                                                                                    946 AACGCCATCAACTACCTGGGGCCGAGTCCCTGCGCCCGCTGGTGCAGACGCCCCGGGC 1005
                                                                                                                                                                                                                                                                                                                                                                                                                                          1006 GGTTCCGAGGTGGTCCCGGTCATCAGCCCGATGTACCAGCTGCACAGGCGCTCGGAGGGC 1065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1066 ACCCCGCGCTCCAACCACTCGGCCCAGGACAGCGCCGTGGAGTACCTGCTGCTGCTCTCC 1125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   961 AAGGCCAAGTIGGTGCCCTCGGAGCGCGAGGCGTCCCCGAGCAACAGCTGCCAAGACTCC 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                             006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                   CTGTACCCAGTCATTAAAGAAAACTAAGCACAGTGAAATGGCAGAAGACCTGTGCAAG 765
                                                                                                                                                                                                                                                                                                                                                                 886 GCCACGTACGAGAAGGAGAACGAAATGATGAAGTCCCACGTGATGGACCAAGCCATCAAC 945
                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                            825
                                                                                                                                                                                                                                                                                                            99
                                                                                                                                                                                                                                                                                                                               882
346 AAACTAAAGTGTGATATCTGTGGGATCATTTGCATCGGGCCCAATGTGCTCATGGTTCAC 405
                                                                        465
                                                                                       241 AAAAGAAGCCACACTGGAGAACGGCCCTTCCAGTGCAATCAGTGCGGGGCCTCATTCACC 300
                                                                                                                     526 CACCICIGCAACIACGCCIGCCGCGGAGGACGCCCICACIGGCCACCIGAGGACGCAC 585
                                                                                                                                                        645
                                                                                                                                                                                                                                                                                                                                                                                                                586 TCCGTTGGTAAACCTCACAAATGTGGATATTGTGGCCGAAGCTATAAAACAGCGAACGTCT
                                                                                                                                                                                                                                                                                                      ATAGGATCAGAGAGTCTCTCGTGCTGGACAGACTAGCAAGTAATGTCGCCAAACGTAAG
                                            AAAAGAAGCCACACTGGAGAACGGCCCTTCCAGTGCAATCAGTGCGGGGCCTCATTCACC
                                                                                                           CAGAAGGGCAACCTGCTCCGGCACATCAAGCTGCATTCCGGGGAGAAGCCCTTCAAATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1186
                                                                                                                                                                                                                                                              904
                                                                                                                                                                                                                                                                                                 994
                                                                             406
                                                                                                                 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                       δy
                                                                                                                                                                                                                                                                                                                                                                                       쉱
                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                   οχ
                                                                                                                                                                                                       셤
                                                                                                                                                                                                                        ŏ
                                                                                                                                                                                                                                        임
                                                                                                                                                                                                                                                             δy
```

```
ö
                                                                                                                                              PAT 08-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                465
                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                       345
                                                                                                                                                                                                                                                                                                                                                                                            405
                              1426 AICCACAIGGGCIGCCACGGCIICCGIGAICCIITIGAGIGCAACAIGIGCGGCIACCAC 1485
                                                                                                                                                                                                                                                                                                                      285
                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                 466 CAGAAGGGCAACCTCCGGCACATCAAGCTGCATTCCGGGGAGAAGCCCTTCAAATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     526 CACCICIGCAACTACGCCIGCCGCCGAGGGACGCCCTCACIGGCCACCIGAGGACGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    286 CACAGGGACCAAGGCAGCTCGGCTTTGTCGGGAGTTGGAGGCATTCGACTTCCTAACGGA
                                                                                                                                                                                                                                                                                                                               .;
0
                                                                                                                                                                                                                                                                                          Length 1386;
                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                          89.4%; Score 1386; DB 6; I
100.0%; Pred. No. 1.1e-222;
ive 0; Mismatches 0;
                                                                                                                                                                                                           (bases 1 to 1386)

Georgopoulos,K.
Ikaros: A T cell pathway regulatory gene Patent: US 6228611-A 3 08-MAY-2001;
Location/Qualifiers
                                                                                                                                                 DNA
                                                                                                                                           AR149594 1386 bp
Sequence 3 from patent US 6228611.
AR149594
                                                                                                                                                                                                                                                     /organism="unknown"
403 c 395 q
                                                                                                                                                                       AR149594.1 GI:15114185
                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
Matches 1386; Conservative
                                                                                                                                                                                                                                                 .1386
                                                                                                                                                                                                     Unclassified.
                                                                                                                                                                                                                                                                  ď
                                                                                               1546 AGCTAA 1551
                                                                                                             1381 AGCTAA 1386
                                                                                                                                                                                        Unknown.
                                                                                                                                                                                                Unknown
                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                     9
                                                                                                                                                                                                ORGANISM
                                                                                                                                                          DEFINITION
                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                KEYWORDS
SOURCE
                                                                                                                                                                  ACCESSION
                                                                                                                                      RESULT
AR149594
                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                             TITLE
                                                                                                                                                                          VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                           δλ
                                                                                                                                                                                                                                                                                                                              ò
                                                                                8
                                                   셤
                                                                   ò
                                                                                                ă
                                    Ω
```

```
946 AACGCCATCAACTACCTGGGGGCCGAGTCCCTGCGCCGGTGGTGCAGACGCCCCGGGG 1005
        1006 GGTTCCGAGGTGGTCCCGGTCATCAGCCCGATGTACCAGCTGCACGCGCTCGGAGGGC 1065
                                                                                                                                                                                                                                                                                       1066 ACCCGGGGTCCAACCACTCGGCCCAGGACAGGGCCGTGGAGTACCTGCTGCTGCTCC 1125
                                                                                                                                                                                                                                                                                                                              1126 AAGGCCAAGTIGGIGCCCICGGAGCGCGAGGCGICCCCGAGCAACAGCIGCCAAGACICC 1185
646 TTAGAGGAACATAAAGAGGGCTGCCACAACTACTTGGAAAGCATGGGCCTTCCGGGCACA 705
                                       706 CTGTACCCAGTCATTAAAGAAGAAACTAAGCACAGTGAAATGGCAGAAGACCTGTGCAAG 765
                                                                               766 ATACGATCAGAGAGATCTCTCGTGCTGGACAGCAGCAAGTAATGTCGCCAAACGTAAG 825
                                                                                                                                                                                                                                                                                                                                           1246 ATCGCCCGACGCGCAACGCGTGTCGCTCAAGGAGGAGCACCGCGGCCTACGACCTGCTG 1305
                                                                                                                                                                                                                                                                                                                                                                                                                         1081 ATCGCCCGACGCGCGCGCGCGTGTCGCTCAAGAGAGCACCGCGCCTACGACTGCTG 1140
                                                                                                                                   886 GCCACGTACGAGAAGGAGAAAGGAATGATGAAGTCCCACGTGATGGACCAAGCCATCAAC 945
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1306 CGCGCCGCCTCCGAGAACTCGCAGGACGCCTCCGCGTGGTCAGCACCAGCGGGGAGCAG 1365
                                                                                                                                                                          1366 ATGAAGGIGTACAAGTGCGAACACTGCCGGGTGCTCTTCCTGGATCACGTCATGTACACC 1425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1426 ATCCACATGGGCTGCCACGGCTTCCGTGATCCTTTTGAGTGCAACATGTGCGGCTACCAC 1485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1486 AGCCAGGACCGGTACGAGTTCTCGTCGCACATAACGCGAGGGGAGCACCGCTTCCACATG 1545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         826 AGCTCTATGCCTCAGAAATTTCTTGGGGACAAGGGCCTGTCCGACACGCCTACGACAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1381 AGCTAA 1386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1546 AGCTAA 1551
                                       ŏ
                                                          Db
                                                                              ò
                                                                                                 Op
                                                                                                                        ö
                                                                                                                                           셤
                                                                                                                                                               ŏ
                                                                                                                                                                                   g
                                                                                                                                                                                                       ò
                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
```

```
BC018349

LOCUS

BC018349

BC018349
```

RESULT

```
Clone distribution: MGC clone distribution information can be found
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         / Translation="Mindbegodwsoysgkesppvsdppdegdepmplpedlestrsggg
QSSKSDRVAANVKVETQSDEENGRACEMNGEECAEDLRMLDASGERNNGSHRDQGSS
ALSGVGGITRPNGKLKCDICGIICIGPNVLMYHRSHIGERPROCNOCASFTQKGNL
LRHIKLHSGEREPRCTHLCNYACRRDALTGHLRTHSVIKEETHNSEMAEDLCKIGSER
SLVLDRLASNVAKRKSSMPQKFLGDKGLSDTPYDSSAASYEKRNEMAKSHVMDQAINN
SINTGARSIPLVQTPPGGSEVPVLISPMYQLHKPLARGTPRSNHSAQDSAVBNLLLL
YDLLRAASENSQDATDTESNNEEQRSGLITITNHIAPHANNGLSKEEHRA
YDLLRAASENSQDATUTESNNEEQRSGLIYLTNHIAPHANNGLSKEEHRA
NMCGYHSQDRYEFSSHITRGEHRFHMS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Web site: http://www.hgsc.bcm.tmc.edu/cdna/
Contact: villalon@bcm.tmc.edu.
Villalon, D.K., Luna, R.A., Hale, S.M., Hulyk, S., Lu, X., Garcia,
A.M., Holloway, M., Telford, B, Hodgson, A., Bouck, J., Yu, W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4
                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov/series: IRAK Plate: 12 Row: o Column: 17
This clone was selected for full length sequencing because it passed the following selection criteria: matched mRNA g1: 5174500.

Location/Qualiflers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /product="Similar to zinc finger protein, subfamily 1A, 1
                                                                                                                                                                                                   Submitted (03-DEC-2001) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 AGCGATACTCCAGATGAGGGGGATGAGCCCATGCCGATCCCCGAGGACCTCTCCACCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  78.0%; Score 1210; DB 9; Length 3572;
89.7%; Pred. No. 3e-193;
tive 0; Mismatches 25; Indels 135; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 TCGGGAGGACAGCAAAAGCTCCAAGAGTGACAGAGTCGTGGCCAGTAATGTTAAAGTAGAG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: MGC help desk Famal: cgapbs-rémail.nih.gov Tissue Procurement: Lou Staudt CONA Library Preparation: Life Technologies, Inc. CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Baylor College of Medicine Human Genome
                                                                                                                                                                                                                                                                                                        NIH-MGC Project URL: http://mgc.nci.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone="MGC:17055 IMAGE:4338834"
/tissue_type="Lymph, lymphoma"
/clone_lib="NIH_MGC_85"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               765 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="Vector: pCMV-SPORT6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /protein_id="AAH18349.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /db_xref="GI:17390815"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            914 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Center code: BCM-HGSC
                                                                                                                                   1 (bases 1 to 3572)
Strausberg, R.
                                                                                                                                                                             Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (Ikaros)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequencing Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 1400; Conservative
                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                human.
                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                             REFERENCE
                                                                                                                                                   AUTHORS
                                                                                                                                                                                                        JOURNAL
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
                                                                                                                                                                                                                                                                                                           REMARK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

```
PAT 29-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361 ATCTGTGGGATCATTTGCATCGGGCCCCAATGTGCTCATGGTTCACAAAAGAAGCCACACT 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 TCGGGAGGACAGCAAAGCTCCAAGAGTGACAGAGTCGTGGCCAGTAATGTTAAAGTAGAG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1432 AIGGGCIGCCACGGCIICCGIGAICCIIIIGAGIGCAACAIGIGGGGCIACCACAGGCCAG 1491
                                                                                                                                                       1507 ATGGGCTGCCACGGCTTCCGTGATCCTTTTGAGTGCAACATGTGCGGCTACCACAGCCAC 1566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 AGCGATACTCCAGATGAGGGCGATGAGCCCATGCCGATCCCCGAGGACCTCTCCACCACC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    183 AGTGACACTCCAGATGAAGGGGATGAGCCCATGCCTGAGGACCTGTCCACTACC 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1312 GCCTCCGAGAACTCGCAGGACGCGCTCCGCGTGGTCAGCACCAGCGGGGAGCAGATGAAG 1371
                                                                        1372 GIGTACAAGIGCGAACACIGCCGGGIGCICTICCIGGAICACGICAIGIACACCAICCAC 1431
Ouery Match 75.7%; Score 1174.8; DB 6; Length 2049; Best Local Similarity 87.2%; Pred. No. 2.4e-187; Matches 1365; Conservative 0; Mismatches 177; Indels 24; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                          2049 bp
Sequence 5 from patent US 5824770.
AR049702
                                                                                                                                                                                                                                                                                                                                               1 (bases 1 to 2049)
Georgopoulos, K.
Ikaros polypeptides
Patent: us 5824770-A 5 20-0C1
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                         /organism="unknown"
531 c 574 q
                                                                                                                                                                                                                                                                                                AR049702.1 GI:5971694
                                                                                                                                                                                                                                                                                                                                                                                                    .2049
                                                                                                                                                                                                                                                                                                                                       Unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                         514 a
                                                                                                                                                                                                                                                                                                                      Unknown.
                                                                                                                                                                                                                                                                                                                                Unknown
                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
                                                                                                                                                                                                                                               æ
                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                         AR049702
                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ă
                                                                                                                                                                         рp
                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                   g
                                                                                                                                  g
                                                                                                               ŏ
                                                  g
                                                                        ŏλ
```

9

Oy 421 Oy 481 Oy 481 Oy 481 Oy 661 Oy 961 Oy 1020 Oy 1078 Oy 1078 Oy 1138 Oy 1138		ATCTGTGGGA	. GGAGAACGGCCTTCCAGTGCAATCAGTGCGGGCCTCATTCACCCAGAAGGGCAACCTG 480 	CTCCGGCACATCAAGCTGCATTCCGGGGAAGCCCTTCAAATGCCACTCTGCAACTAC 54	ACTGGCCACCTGAGGACGCACTCCGTTGGTAAACCT 60.	CGAAGCTATAAACAGCGAACGTCTTAGAGGAACATAAA 66	3GGCTGCCACAACTACTTGGAAAGCATGGCCTTCCGGGCACACTTTAGAGGAGCATAAA 88 11	CAGTGAAATGGCAGAAGACCTGTGCAAGATAGGATCAGTT 93 CAGTGAAATGGCAGAAGACCTGTGCAAGATAGGATCAGAGAGA 78 LI IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	GGACAGACTAGCAAGTAAGGAGGAGAGAGAGAGAGAGAGA	CGCCCTACGACAGTGCCACGAGAAG 900	CCCACGTGATGGACCACCATCATCACCACCATCAACTAC 111	SCTGGTGCAGACGCCCCGGGCGGTTCCGAGGTGGTC 10:	CGGTCATCAGCCCGATGTACCAGCTGCACAGGCGCTCGGAGGCCACCCCGCGCTCC 107-	CCACTCGGCCCAGGACAGCGCCGTGGAGTACCTGCTGCTGCTCTCCAAGGCCAAGTTG 113*	TGCCTCGGAGCGCGAGGGTCCCCGAGCAACAGCTGCCAAGACTCCACGGACACCGGG 119	-AACAACGAGGAGCAGCGGTCTTATCTACCTGACCAACCACTCGCCGACGC 125	CGGAACGCGTGTCGCTCAAGGAGGAGCACCGCGCTACACACTGCTGCCGCCCGC	ABGAACTCGCAGGACGCGCTCCGCGTCAGCACCGGGGGGGGG	ACAAGTGCGAACACTGCGGGGTGCTCTTCCTGGATCACGTCATGTACACATCACATG 143	
	_	83	21 G 43 G	81 03	41 G 63 G	01	61	21	81 T 00 T	41	01	61	21 C 37 C	78 AA - 97 AA	38 GT 54 GT	98	58 GCG 74 GCA	15 TCC 34 TCA	75 TA 94 TA	i LO
		go .	Å q	Qy Db	Oy Db	oy Db	oy ob	QY Db	Qy Db 1	Oy Db 1	7		ਜ ਜ		7 7	'ਜ ਜੇ	ਜਜ	ਜ ਜੋ	13	14

```
PAT 16-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                           9
                    1654 GGCIGCCAIGGCIGCCAIGGCTITCGGGAICCCTITGAGIGIAACAIGIGGIAAICAC 1713
                                                                                                                                                                                                                                                                                                                                                                                                                                              61 AGCGATACTCCAGATGAGGGGGATGAGCCCATGCCGATCCCCGAGGACCTCTCCACCACC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 TCGGGAGGACAGCAAAGCTCCAAGAGTGACAGAGTCGTGGCCAGTAATGTTAAAGTAGAG 180
                                                                                                                                                                                                                                                                                                                                                                                                                         223 ATGGATGTCGATGAGGGTCAAGACATGTCCCAAGTTTCAGGAAAGGAGGGCCCCCCAGTC 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 GATTTACGAATGCTTGATGCCTCGGGAGAAAATGAATGGATGCCTCCCACAGGGACCAAGGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301 AGCICGGCITIGICGGGAGTIGGAGGCAITCGACTICCIAACGGAAAACTAAAGTGIGAI 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361 ATCTGTGGGATCATTIGCATCGGGCCCAATGTGCTCATGGTTCACAAAAAAAGAGCCACACT 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421 GGAGAACGCCCTTCCAGTGCAATCAGTGCGGGCCTCATTCACCCAGAAGGGCAACCTG 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541 GCCTGCCGCGGAGGACGCCCTCACTGGCCACCTGAGGACGCACTCCGTTGGTAAACCT 600
                                                                                                                                                                                                                                                                                                                                                             Query Match 75.7%; Score 1174.8; DB 6; Length 2049; Best Local Similarity 87.2%; Pred. No. 2.4e-187; Matches 1365; Conservative 0; Mismatches 177; Indels 24.
                                                                                                                                                    linear
                                                                                                                                                                                                                                                                                                                                                                                  0; Mismatches 177; Indels
                                                                                                                                                   DNA
                                                                                                                                              Sequence 4 from patent US 6172278.
                                                                                                                                                                                                                                                         Ikaros transgenic cells and mice
Patent: US 6172278-A 4 09-JAN-2001;
                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                        /organism-"unknown"
                                                                                                                                                                                                                                                                                                                   574 g
                                                                                                                                                                              AR125030.1 GI:14110418
                                                                                                                                                                                                                        Unclassified.
1 (bases 1 to 2049)
Georgopoulos, K.
                                                                                                                                                                                                                                                                                                                   531 c
                                                                                                                                                                                                                                                                                            . 2049
                                                                1546 AGCTAA 1551
                                                                                      1774 AGCTAA 1779
                                                                                                                                                                                                                                                                                                                 514 a
                                                                                                                                           AR125030
                                                                                                                                                                                                  Unknown.
                                                                                                                                                                                                              Unknown
                                                                                                                                                                                                                                                                                            source
                                                                                                                                                      DEFINITION
                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                        TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                               BASE COUNT
                                                                                                                      RESULT
AR125030
                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                        KEYWORDS
                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                              VERSION
                                                                                                                                                                                                                                                                                                                          ORIGIN
                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
```

```
1435 ------GGCIGCCACGGCIICCGIGATCCTITIGAGIGCAACAIGIGCGGCTACCAC 1485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1486 AGCCAGGACCGGTACGACTTCTCGTCGCACATAACGCGAGGGGAGCACCCCTTCCACATG 1545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1714 AGCCAGGACAGGTACGAGTTCTCATCATCATCACGCGGGGGGGACATCGTTACCACCTG 1773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1315 TCCGAGAACTCGCAGGACGCGCTCCGCGTCAGCACCAGCGGGGGGAGCAGGAGGTG 1374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1534 rcagagaacrcccadgargccrrccgrgrggrcagcacgagrggcgcgagcagcrgaaggrg 1593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1375 TACAAGTGCGAACACTGCCGGGTGCTCTTCCTGGATCACGTCATGTACACCATCCACATG 1434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGC---AACGCGTGTCGCTCAAGGAGGAGCACCGCGCCTACGACCTGCTGCCGCCGCCGCC 1314
                                                                                                                                                                                                                                                                                                                                                                                                                                       1138 GTGCCCTCGGAGCGCGAGCGTCCCCGAGCACAGCTGCCAAGACTCCACGGACACCCCAGG 1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1354 GIGICAICGGAGCGAGAGGCCICCCGGAGCAACAGCIGCCAAGACICCACAGAIACAGAG 1413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1297 AACCATTCAGCACAGGA---CGCCGTGGATAACTTGCTGCTGCTGTCCAAGGCCAAGTCT 1353
                                                                                                                                                                                                                                                                       961 CTGGGGGCGAGTCCCTGCGCCGGTGGAGACGCCCCGGGCGGTTCCGAGGTGGTC 1020
                                                                                                                                                                                                                                                                                                                            1177 crisissicaricaricaricaristicaricaracacacacacacaracaracaracaras 1236
                                                                                                                                                                                                                                                                                                                                                  1021 CCGGICAICAGCCCGAIGIACCAGCIGCACAGG---CGCICGGAGGCACCCCGCGCTCC 1077
                                                                                                                                                                                                                                                                                                                                                              1078 AACCACTCGGCCCAGGACAGCGCCGTGGAGTACCTGCTGCTGCTCCTAAGGCCAAGTTG 1137
                                                                                                                                                                  841 AAATTTCTTGGGGACAAGGGCCTGTCCGACACGCCCTACGACAGTGCCACGTACGAGAAG 900
                                                                                                                        721 AAAGAAGAAACTAAGCACAGTGAAATGGCAGAAGACCTGTGCAAGATAGGATCAGAGAGA 780
                                                                                                                                     901 GAGAACGAAATGATGAAGTCCCACGTGATGGACCAAGCCATCAACAACGCCATCAACTAC
823 CACAAATGTGGATATTGTGGCCGGAGCTATAAACAGCGAAGCTCTTTAGAGGAGCATAAA
                                                                           661 GAGCGCTGCCACAACTACTTGGAAAGCATGGGCCTTCCGGGCACACTGTACCCAGTCATT
                                                                                         1546 AGCTAA 1551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1774 AGCTAA 1779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                          Db
                                                                                                                                                                                                                                                                                                                                                                                                                                               δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                           Óγ
                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                    οy
                                                                                                                                                                                                                                                                Οý
                                                                                                                                                                                                g
                                                                                                                                                                                                                         δλ
                                                                                                                                                                                                                                           g
                                                                                                                                                       g
                                                                                                                                                                              ŏ
                     셤
                                                               q
                                                                                      õ
                                                                                                                                ò
                                           à
```

```
<u>.</u>
ف
PAT 08-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721 AAAGAAGAAACTAAGCACAGTGAAATGGCAGAAGACCTGTGCAAGATAGGATCAGAGAGA 780
                                                                                                                                                                                                                                                                                                                                                                   601 CACAAATGTGGATATTGTGGCCGAAGCTATAAACAGCGAACGTCTTTAGAGGAACATAAA 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421 GGAGAACGGCCCTTCCAGTGCAATCAGTGCGGGCCTCATTCACCCAGAAGGGCAACCTG 480
                                                                                                                                                                                                                                                                                                                                                                                                                                               121 TCGGGAGGACAGCAAAAGGTCCAAGAGTGACAGAGTCGTGGCCAGTAATGTTAAAGTAGAG 180
                                                                                                                                                                                                                                                                              Query Match 75.7%; score 1174.8; DB 6; Length 2049; Best Local Similarity 87.2%; Pred. No. 2.4e-187; Matches 1365; Conservative 0; Mismatches 177; Indels 24; Gaps
                                                                                                                                                                                                1 AIGGAIGCIGACGAGGGICAAGACAIGICITICICATCAGGGAAGGAAAGCCCCCTGIA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541 GCCTGCCGCCGGAGGGACGCCCTCACTGGCCACCTGAGGACGCACTCCGTTGGTAAACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 2049)

Georgopoulos, K.
Ikaros: A T cell pathway regulatory gene patent: US 6228611-A 5 08-MAY-2001;
Location/Qualifiers
1. 2049
                                                                                                                                  430
2049 bp'
Sequence 5 from patent US 6228611.
AR149596
                                                                                                                   /organism="unknown"
514 a 531 c
                               AR149596.1 GI:15114187
                                                                 Unclassified.
                                                    Unknown.
                                                             Unknown
                                                                                                                                                                       Query Match
                                                                                                                       source
                                                                                                                                      BASE COUNT
                                                             ORGANISM
                  DEFINITION
                                                                                                     JOURNAL
                            ACCESSION
                                                                             REFERENCE
                                                                                     AUTHORS
                                                                                                            FEATURES
                                           KEYWORDS
  AR149596
                                                                                              TITLE
                                   VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŏλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                            δŏ
                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                             δy
                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                          δ
```

```
CIGGGGGCCGAGTCCCIGGCGCCGCTGGTGCAGACGCCCCCGGGCGGTTCCGAGGTGGTC 1020
                                                                                                                                                              1021 CCGGTCATCAGCCCGATGTACCAGCTGCACGG---CGCTCGGAGGGCACCCCGCGCTCC 1077
                                                                                                                                                                                                      1078 AACCACTCGGCCCAGGACAGCGCCGTGGAGTACCTGCTGCTGCTCCCAAGGCCAAGTTG 1137
                                                                                                                                                                                                                                              1138 GTGCCCTCGGAGCGCGAGGCGTCCCCGAGCAACAGCTGCCAAGACTCCACGGACACCGAG 1197
                                                                                                                                                                                                                                                                                       841 AAATTICTIGGGGACAAGGGCCTGTCCGACACGCCCTACGACAGTGCCACGTACGAGAAG 900
                                                                                                                    960
                                                                                                                                                                                                                                                                                                                                                           1258 GCGC---AACGCGTGTCGCTCAAGGAGGAGCACCGCGCCTACGACCTGCTGCGCGCCGCC 1314
                                                                                                                                                                                                                                                                                                                                                                                                 1315 TCCGAGAACTCGCAGGACGCGCTCCGCGTGGTCAGCACCAGGGGGGGAGCAGATGAAGGTG 1374
                                                                                                                                                                                                                                                                                                                                                                                                             1375 TACAAGTGCGAACACTGCCGGGTGCTCTTCCTGGATCACGTCATGTACACCATCCACATG 1434
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1194 TACAAGTGCGAACACTGCCGCGTGCTCTTCCTGGATCACGTCATGTATACCATTCACATG 1653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------GGCTGCCACGGCTTCCGTGATCCTTTTGAGTGCAACATGTGCGGCTACCAC 1485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1486 AGCCAGGACCGGTACGAGTTCTCGTCGCACATAACGCGAGGGGAGCACCGCTTCCACATG 1545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781 TCTCTCGTGCTGGACAGACTAGCAAGTAATGTCGCCAAACGTAAGAGCTCTATGCCTCAG
                                                                                                             901 GAGAACGAAATGATGAAGTCCCACGTGATGGACCAAGCCATCAACAACGCCATCAACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1546 AGCTAA 1551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1774 AGCTAA 1779
                                                                                                                                                     196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1435
                               ò
                                                  g
                                                                     à
                                                                                       a
                                                                                                             ð
                                                                                                                              g
                                                                                                                                                    ŏ
                                                                                                                                                                      엄
                                                                                                                                                                                           ö
                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
```

```
241
                                                                                                 301
                                                                                                                                                            361
          Ω
                                      g
                                                                   ğ
                                                                                                셤
                                                                                                                               ö
                                                                                                                                                         d
         VRT 03-SEP-1997
                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
Phasianinae; Gallus.
1 (bases 1 to 1557)
    linear
    GGIKTRF 157 bp mRNA lin
G.gallus mRNA for Ikaros transcription factor.
 1557 bp
                                                        Ikaros; transcription factor.
                                          Y11833.1 GI:2330594
                                                                                       Gallus qallus
                                                                       chicken.
GGIKTRF
                             X11833
```

DEFINITION

ACCESSION

VERSION SOURCE

KEYWORDS

ORGANISM

REFERENCE

RESULT 11

GGIKTRF

LOCUS

```
/db_xref="SM15S-PROT:042410"
/translation="METDEAQDMSQVSGKESPPISDVPDDADEPMPVPEDLSTTTGGQ
OSVRNENVLAGMIKIETOSDEENGRACEMNGESCAEDIRMIDASGDR&MGSINGPGSK
AMSGVGGIRLAGMIKIETOSDEENGRACEMNGESCAEDIRMIDASGDR&MGSINGPGSK
AMSGVGGIRLAGMIKECDICGIICIGPNVLMVHNRSHTGERPPGCNQCGASFTQKGNL
LRHIKLHSGEKPPKCLCDICGIICIGPNVLMVHNRSHTGERPPGCNQCGASFTQKGNL
LRHIKLHSGEKPPKCLCDIVITACRERDALTGHHRTHSVGRPHKCGYCGRSYRGRSTEB
SMPQKFVGEKCLSDLPYDATTNYEKENRIMOTHIDAINNAISYLCABSLERPLYOTP
PVGSEVYPYISPMYGUHKPLGDNTRSNHTAQDSAVENLLLISRAKSVSSENDASPSN
SCQDSTDTESNNGHRPLGDHYRLGHANNTIHMGCHGFRDPFECNMCGYHSQDNYEFSSHI
SSNGRQVYFKKCEHCRYLFLDHVMYTHMGCHGFRDPFECNMCGYHSQDNYEFSSHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4,
                                                                                                                                        Submitted (12-MAR-1997) J.P. Liippo, Turku Immunology Centre and Department of Medical Microbiology, Turku University, Kiinamyllynkatu 13, FIN-20520 Turku, FINLAND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 AGCGATACTCCAGATGAGGGCGATGAGCCCATGCCGATCCCCGAGGACCTCTCCACCACC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 TCGGGAGGACAGCAAAGCTCCAAGAGTGACAGAGTCGTGGCCAGTAATGTTAAAGTAGAG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181 ACTCAGAGIGATGAAGAAGAATGGGCGTGCCTGTGAAATGAATGGGGAAGAATGTGCGGAG 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GATTTACGAATGCTTGATGCCTCGGGAGAAAATGAATGGCTCCCACAGGGACCAAGGC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301 AGCTCGGCTTTGTCGGGGGTTGGAGGCATTCGACTTCCTAACGGAAAACTAAAGTGTGAT 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 ATGGAAACAGATGAGGCTCAAGATATGTCCCAGGTTTCAGGAAAGGAAAGTCCTCCAATT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361 AICTGTGGGATCATTTGCATCGGCCCCAATGTGCTCCATGGTTCACAAAAGAAGCCACACT
Liippo,J. and Lassila,O.
Avian Ikaros gene is expressed early in embryogenesis
Eur. J. Immunol. 27 (8), 1853-1857 (1997)
97439462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     65.0%; Score 1008; DB 5; Length 1557; 79.7%; Pred. No. 2.1e-159; Live 0; Mismatches 305; Indels 12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product="Ikaros transcription factor"
                                                                                                                                                                                                                                                                /strain="RPL]"
/db_xref="taxon:9031"
/cell_type="T lymphocyte"
/tissue_type="thymus"
/clone_lib="pCDM8 thymus cDNA"
                                                                                                                                                                                                                                             /organism="Gallus gallus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /protein_id="CAA72531.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /db_xref="GI:2330595"
                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     387 g
                                                                                                                                                                                                                                                                                                                                                                                                             /gene="Ikaros"
                                                                                                                                                                                                                                                                                                                                                                                                                                                      /gene="Ikaros"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /codon_start=1
                                                                               (bases 1 to 1557)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TRGEHRFHMS"
                                                                                                                                                                                                                                                                                                                                                                        /germline
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     368 c
                                                                                                                        Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 1243; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                  .1557
                                                                                                 Liippo, J.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                            source
                                  JOURNAL
MEDLINE
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
AUTHORS
                                                                                                     AUTHORS
                                                                                                                                        JOURNAL
                                                                                                                                                                                                    FEATURES
                   TITLE
                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
```

à g ò d οy g ŏ

```
1018 GICCCGGICAICAGCCCGAIGIACCAGCIGCACAGGCGCTCGGAGGGCACCC---CGCGC 1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCAACCACTCGGCCCAGGACAGCGCCGTGGAGTACCTGCTGCTGCTCCTCCCAAGGCCAAG 1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1081 rccaaccaracgecreaggacageceaergeaaaacrrerrergecrecreaagecraa 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1135 TIGGIGCCTCGGAGCGCGAGGCGTCCCCGAGCAACAGCTGCCAAGACTCCACGGACACC 1194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1255 CGCGC---GCAACGCGTGTCGCTCAAGGAGGAGCACCGCGCCTACGACCTGCTGCGCGCCC 1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1258 CATGCAAGAAATGGCATATCTGTAAAAGAAGAAGGCAGCAGGTTTGATGTATTGAGGGCA 1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1312 GCCTCCGAGAACTCGCAGGACGCGCTCCGCGTGGTCAGCACCAGCGGGGAGCAGATGAAG 1371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1318 GGTACTGACAATTCCCAGGATGCTTTCAAAGTGATCAGCAGCAATGGGGGAGCAAGTGAGA 1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1372 GIGIACAAGIGCGAACACIGCCGGGIGCICTICCIGGAICACGICAIGIACACCAICCAC 1431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       958 TACCIGGGGGCCGAGICCCIGCGCCGCTGGIGCAGACGCCCCCGGGCGGIICCGAGGIG 1017
                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 898 AAGGAGAACGAAATGATGAAGTCCCACGTGATGGACCAAGCCATCAACAACGCCATCAAC 957
                                                                                                                                                                                                                                                                                          721 AAAGAAGAAACTAAGCACAGTGAAATGGCAGAAGACCTGTGCAAGATAGGATCAGAGAGA 780
                                                                                                                                                                                                                                                                                                                                                                                                          841 AAAŢITCIIGGGGACAAGGGCCIGICCGACACGCCCIACGA---CAGIGCCACGIACGAG 897
                                                         CTCCGGCACATCAAGCTGCATTCCGGGGAGAAGCCCTTCAAATGCCACCTCTGCAACTAC 540
                                                                                                                  GCCTGCCGCCGGAGGGACGCCCTCACTGGCCACTGAGGACGCACTCCGTTGGTAAACCT 600
                                                                                                                                   CACAAATGTGGATATTGTGGCCGAAGCTATAAACAGGGAACGTCTTTAGAGGAACATAAA 660
                                                                                                                                                                                                     601 CATAAGTGTGGATACTGTGGTCGCAGCTATAAGCAGCGCAGCTCTTTGGAAGAACATAAA 660
                                                                                                                                                                                                                                 661 GAGCGCTGCCACAACTACTTGGAAAGCATGGGCCTTCCGGGCCACACTGTACCCAGTCATT 720
                                                                                                                                                                                                                                                 421 GGAGAACGGCCCTTCCAGTGCAATCAGTGCGGGGCCTCATTCACCCAGAAGGCAACCTG 480
                           421 GGAGAACGGCCCTTCCAGTGCAATCAGTGCGGAGCCTCCTTTACGCAGAAGGGAAACCTC 480
                                                                                                                                                                                                                                                                                                                                                                                                                           1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1075
                                                                481
                                                                                                                          541
                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

ΩD ò a δ g

쉽 ò g ö

```
Ĥ
                                                                                linear . PAT 29-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     961 CIGGGGGCCGAGICCCIGCGCCGCTGGIGCAGACGCCCCGGGCGGTICCGAGGIGGIC 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841 AAATTECTTGGGGACAAGGCCTGTCCGACACGCCCTACGACAGTGCCACGTACGAGAAG 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGAACGAAATGATGAGTCCCACGTGATGGACCAAGCCATCAACAACGCCATCAACTAC 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         474
721 AAAGAAGAAACTAAGCACAGTGAAATGGCAGAAGACCTGTGCAAGATAGGATCAGAGAGA 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTCTCGTGCTGGACAGACTAGCAAGTAATGTCGCCAAACGTAAGAGCTCTATGCCTCAG 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       295 AAATTICTIGGGGACAAGGGCCTGTCCGACACGCCCTACGACAGTGCCACGTACGAGAAG 354
                                                                                                                                                                                                                                                                                                                                           601 CACAAATGTGGATATTGTGGCCGAAGCTATAAACAGCGAACGTCTTTAGAGGAACATAAA 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661 GAGCGCTGCCACAACTACTTGGAAAGCATGGGCCTTCCGGGCACACTGTACCCAGTCATT 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                169 ------GTCAIT 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481 CTCCGGCACATCAAGCTGCATTCCGGGGAGAAGCCCTTCAAATGCCACCTCTGCAACTAC 540
                                                                                                                                                                                                                                                                                                                                                                                                    TCTCTCGTGGTGGACAGACTAGCAAGTAATGTCGCCAAACGTAAGAGCTCTATGCCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCTGCCGCGGAGGGACGCCCTCACTGGCCACCTGAGGACGCACTCCGTTGGTAAACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                             121 GCCTGCCGCCGGAGGGACGCCTCACTGGCCACCTGAGGACGCACTCC------
                                                                                                                                                                                                                                                                                                                        Indels 126;
                                                                                                                                                                                                                                                                                                DNA
                                                                                                                                                                                                                                                        ų
                                                                                                                                                                           1 (bases 1 to 1004)
Georgopoulos, K.
Ikaros polypeptides
Patent: US 5824770-A 8 20-OCT-1998;
                                                                                             8 from patent US 5824770.
                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                             /organism="unknown"
                                                                                                                                                                                                                                                           286 9
                                                                                                                    AR049705.1 GI:5971697
                                                                                                                                                                                                                                                         328 c
                                                                                                                                                                                                                                                                                                                    Best Local Similarity 88.8 Matches 1004; Conservative
                                                                                                                                                                  Unclassified
                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                            235 a
                                                                                   AR049705
Sequence E
AR049705
                                                                                                                                               Unknown.
                                                                                                                                                           Unknown
                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   235
                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                             BASE COUNT
                                                                                                 DEFINITION
                                                                                                                                                                                                                JOURNAL
                                                                                                              ACCESSION
                                                                                                                                 KEYWORDS
                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                            FEATURES
                                                                           AR049705
                                                                                                                                                                                                     TITLE
                                                                                                                         VERSION
                                                                                                                                                                                                                                                                        ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
          ŏ
```

g

9y 1081 CACTCGGCCCAGGACGCCGTGGAGTACCTCTCCAGGCCAAGTTGGTG 1140 bb 535 CACTCGGCCCAGGACGCCGTGGAGTACCTCCTCCAAGGCCAAGTTGGTG 514 0y 1141 CCCTCGGAGCGCCGCGGAGTACCTCCTCCTCCTCCTCCAAGTTGGTG 534 0y 1141 CCCTCGGAGCGCCGCGGAGCCCCTCCTCCTCCTCCTCCTCCTCCAAGTTGGTG 534 0y 1120 AACAACGAGGACCCCGGAGCCCCTCCTCAACAACTCCACCGACACCCCCAACCCGAACCCCCAACCCCCAACCCCCC	Ouery Match Best Local Similarity Best Corecceded Gorden Gor
	- · · · · · · ·

61	GAGCGCTGCCACAACTACTTGGAAAGCATGGGCCTTCCGGGCACACTGTACCCAGTCATT	168
1		7 6
AAA(aaagaagaaactaagcacagtgaaatggcagaagacctgtgcaagataggatcagagaga 	780
TCTCT	CTCGTGCTGGACAGACTAGCAAGTAATGTCGCCAAACGTAAGAGCTCTATGCCTCAG 	840
AAAT:	TTTCTTGGGGACAAGGCCTGTCCGACACGCCCTACGACAGTGCCACGTACGAGAAG 	900
GAG GAG	GAGAACGAAATGATGAAGTCCCAGGGGATGGACCAAGCCATCAACAACGCCATCAACTAC 	960
CTGGGC CTGGGC	GGGCCCGAGTCCCTGCGCCCGCTGCTGCAGACGCCCCGGGCGGTTCCGAGGTGCTC	1020
0 - 0 - 0 - 0	GGTCATCAGCCCGATGTACCAGCTGCACAGGCGCTCGGAGGGCACCCGGGCTCCAAC 	1080
CAC CAC	CACTCGGCCCAGGACAGCGCGTGGAGTACCTGCTGCTGCTCTCCAAGGCCAAGTTGGTG	1140 594
8=8	CCTCGGAGCGCGAGGCGTCCCCGAGCAACAGCTGCCAAGACTCCACGGACACCGAGAGC 	1200 654
Ă-Ă	AACAACGAGGAGCAGCGCAGCGGTCTTATCTACCTGACCAACAACAACTCGCCCGACGCGCG	1260 714
Z = Z	CAACGCGTGTCGCTCAAGGAGGAGCACCGCGCCTACGACCTGCTGCGCGCGC	1320
AAC:	CTCGCAGGACGCGCTCCGCGTGGTCAGCACCAGCGGGGAGCAGAGCAGATGAAGGTGTACAAG 	1380 834
15 15 15 15 15 15 15 15 15 15 15 15 15 1	CGAACACTGCCGGGTGCTCTTCCTGGATCACGTCATGTACACCATCCACATGGGCTGC 	1440 894
CAC	GGCTTCCGTGATCCTTTTGAGTGCAACATGTGCGGCTACCACAGCCAGGACCGGTAC	1500 954
GAG GAG	ABTICTCGTCGCACATAACGCGAGGGAGCACCGCTTCCACATGAGCTA 1550 	
AR14959 LOCUS DEFINITION SG ACCESSION AL VERSION AL VERSION AL VERSION AL SOURCE U	AR149599 1004 bp DNA linear PAT 08-Sequence 8 from patent US 6228611. AR149599 AR149599.1 GI:15114190 ÜNRNOWN.	AUG-2001

. Unknown. Unklassified.

```
ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021 CCGGTCATCAGCCCGATGTACCAGCTGCACAGGCGCTCGGAGGGCACCCCGCGCGTCCAAC 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1141 CCCTCGGAGGGGGGCGTCCCCGAGGAACAGCTGCCAAGACTCCACGGACACCGAGAGC 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1261 CAACGGGTGTCGCTCAAGGAGGACCGCGCCTACGACCTGCTGCGCGCCGCCCCCCGGG 1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 961 CIGGGGGCCGAGTCCCIGCGCCGCCTGGIGCAGACGCCCCCGGGCGGTTCCGAGGTGGTC 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081 CACTCGGCCCAGGACAGCGCCGTGGAGTACCTGCTGCTGCTCCCAAGGCCAAGTTGGTG 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901 GAGAACGAAATGATGAAGTCCCACGTGATGGACCAAGCCATCAACAACGCCATCAACTAC 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              474
                                                                                                                                                                                                                                                                                                                                                                                                                       661 GAGCGCTGCCACAACTACTTGGAAAGCATGGGCCTTCCGGGCACACTGTACCCAGTCATT 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721 AAAGAAGAAACTAAGCACAGTGAAATGGCAGAAGACCTGTGCAAGATAGGATCAGAGA 780
                                                                                                                                                                                                   481 CICCGGCACATCAAGCIGCATICCGGGGAGAAGCCCTICAAAIGCCACCICIGCAACIAC 540
                                                                                                                                                                                                                                                                       61 CTCCGGCACATCAAGCTGCATTCCGGGAGAAGCCCTTCAAATGCCACCTCTGCAACTAC 120
                                                                                                                                                                                                                                                                                                             541 GCCIGCCGCCGGAGGGACGCCCTCACTGGCCACCTGAGGACGCACTCCGTTGGTAAACCT 600
                                                                                                                                                                                                                                                                                                                             601 CACAAATGTGGATATTGTGGCCGAAGCTATAAACAGCGAACGTCTTTAGAGGAACATAAA 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                  169 ------GICATT 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels 126; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781 TCTCTCGTGCTGGACAGACTAGCAAGTAATGTCGCCAAACGTAAGAGCTCTATGCCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         355 GAGAACGAAATGATGAAGTCCCACGTGATGGACCAAGCCATCAACAACGCCATCAACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               595 CCCTCGGAGCGCGAGGCGTCCCCGAGCAACAGCTGCCAAGACTCCACGGACACCGAGAGC
                                                                                                                                                Length 1004;
                                                                                                                                                56.0%; Score 868; DB 6; I
88.8%; Pred. No. 6.2e-136;
tive 0; Mismatches 0;
                        Ikarós: A T cell pathway regulatory gene
Patent: US 6228611-A 8 08-MAY-2001;
                                                                           /organism="unknown"
328 c 286 ¤
                                                  Location/Qualifiers
1 (bases 1 to 1004)
Georgopoulos, K.
                                                                                                                                                                  Best Local Similarity 88.8
Matches 1004; Conservative
                                                                     1004
                                                                                                                                                                                                                                                                                                                                                                                                  ----- 691
                                                                                               235 a
                                                                                                                                                      Query Match
                                                                        source
                                                                                               BASE COUNT
ORIGIN
 REFERENCE
AUTHORS
                                          JOURNAL
                                                        FEATURES
                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                            å
                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                               à
```

```
ONSKSDEGMGERPFOCNOCGASFTOKGNILRHIKLHSGEKPFKCHLCNYACRREDALT
GHLRTHSVGKPHKCTGCASFTOKGNILRHIKLHSGEKPFKCHLCNYACRREDALT
GHLRTHSVGKPHKCTGCASFTOKGNILRHIKLHSGEKPFKCHLCNYACRREDALT
MAEDICKIGAERSLYLDRLASNVAKRKSSMPQKFLGDKCLSDMPYDSANYBKEDMYTS
MAEDICKIGAERSLYLDRLASNVAKRKSSMPQKFLGDKCLSDMPYDSANNYBKEDMYTS
DAVDDALINAINYLGAESLRPLYQTPPGSSEVYPVSTSMQLHKPPDSOPPSNHTSAD
DAVDNILLLIKARASVSTSAFRASPSNSCODSTDTESNAEDGRSGLIYLTHNINPHRNR
LALKEDGRAYEVLLASASNSQDAFRVYSTSGRSQLKVYKCEHCRVLFLDHVMYTIHMGC
HCCHGFRDPFECNMCGYHSQDRYEFSSHITRGEHRYHLS"

431 C 423 9 311 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /translation="MDVDEGQDMSQVSGKESPPVSDTPDEGDEPMPVPEDLSTTSGAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ROD 11-MAY-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eurerrota.

Butteria; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

(bases 1 to 1550)

Georgopoulos;K., Moore,D.D. and Derfler,B.

Ikaros, an early lymphoid specific transcription factor and a putative mediator for T cell commitment

Science 258 (5083), 808-812 (1992)
                                                                                                                               1441 CACGGCTICCGIGAICCITITGAGIGCAACAIGIGCGGCIACCACAGGCCAGGACCGGIAC 1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              417 CACTEGAGAACGGCCCTTCCAGTGCAATCAGTGCGGGCCTCATTCACCCAGAAGGGCAA 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     194 CATGGGTGAACGGCCTTTCCAGTGCAACAGTGGGGGCCTCTTTACCCAGAAAGCAA 253
715 CAACGCGTGTCGCTCAAGGAGGAGCACCGCGCCTACGACCTGCTGCGCGCCGCCTCCGAG 774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                              MUSIKAROS 1550 bp mRNA linear ROD 11-MP
Mouse Ikaros DNA binding protein (Ikaros) mRNA, complete cds.
L03547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA-binding transcription factor; Ikaros, Ikaros DNA binding protein; transcription; zinc finger protein; zinc-finger transcription factor.
                                                                                                                                                                                                                                            Mus musculus (library: Lambda ZAP EL4) adult cDNA to mRNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 1550;
                                                                                                                                                                                                                                                                                                             1501 GAGTICICGICGCACATAACGCGAGGGGAGCACCGCTICCACATGAGCIA 1550
                                                                                                                                                                                                                                                                                                                                 0; Mismatches 142; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product="Ikaros DNA binding protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           52.5%; Score 814.8; DB 10;
85.6%; Pred. No. 4.9e-127;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /tissue_lib="Lambda ZAP EL4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /protein_id="AAA66193.1"
/db_xref="G1:198287"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1. .1550
/organism="Mus musculus"
/db_xref="taxon:10090"
/cell_type="T_cell"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /dev_stage="adul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="Ikaros"
39. .1334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /gene="Ikaros"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      L03547.1 GI:198286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 984; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ಹ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          93068267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                 셤
                                                                                                                                               δ
                                                                                                                                                                                                                                á
```

537 CTACGCCTGCCGCGGAGGGACGCCCTCACTGGCCACCTGAGGACGCACTCCGTTGGTAA 596 597 ACCTCACAAAIGIGGATAITIGIGGCCGAAGCTAIAAACAGCGAACGICTITAGAGGAACA 656 CTACCTGGGGGCCGAGTCCCTGCGCCGGTGGTGCAGACGCCCCGGGGCGGTTCCGAGGT 1016 1017 GGTCCCGGTCATCAGCCCGATGTACCAGCTGCACAGGCG---CTCGGAGGCCACCCCGCG 1073 1074 CTCCAACCACTCGGCCCAGGACAGCGCCGTGGAGTACCTGCTGCTGCTCTCCAAGGCCAA 1133 657 TAAAGAGCGCTGCCACAACTACTTGGAAAGCATGGGCCTTCCGGGCACACTGTACCCAGT 716 1194 CGAGAGCAACAAGGAGGAGGGGGGGGTCTTATCTACGTGAGGAACCACATGGCCG 1253 1254 ACGCGCG----AACGCGTGTCGCTCAAGGAGGAGCACCGCGCCTACGACCTGCTGCGCGC 1310 717 CATTAAAGAAGAAACTAAGCACAGTGAAATGGCAGAAGACCTGTGCAAGATAGGATCAGA 776 TCAGAAATTTCTTGGGGACAAGGGCCTGTCCGACACGCCCTACGACAGTGCCACGTACGA 896 837 788 δ QQ ò a á g ò Q δ g ŏ g ö g ò ò q g ò 쉽 δ g à g ð g

1311 GGCCTCCGAGAACTCGCAGGACGCGTTCCGCGTGGTCAGCACCAGGGGGAGCAGATGAA 1370

1542 CATGAGCTAA 1551

Db 1325 CCTGAGCTAA 1334

Search completed: August 28, 2002, 08:35:49 Job time: 5389 sec

us-08-711-417c-165.rge